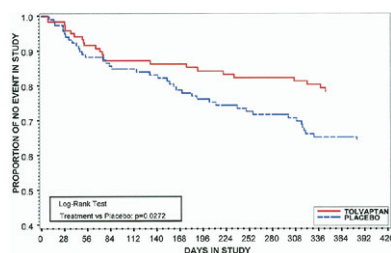
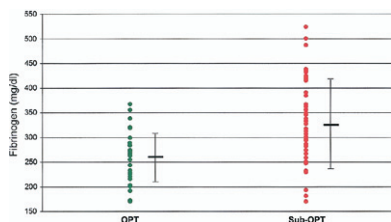


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Clinical Trials

Favorable Mortality Trends for Tolvaptan: No Effect of LV Remodeling

Vasopressin stimulates fluid retention and hyponatremia through V_2 receptors located in the collecting ducts of the kidneys. Tolvaptan is an orally available V_2 -receptor antagonist. Udelson and colleagues randomized 240 stable subjects with ejection fraction $<30\%$ to either tolvaptan or placebo, in addition to standard heart failure (HF) therapy. After 1 year, there was no significant effect on the primary study end point of left ventricular (LV) end-diastolic volume. However, there was a statistically significant reduction for the combination of mortality or hospitalization for congestive HF. In a well-treated population of stable HF patients, tolvaptan did not reduce LV volumes, but did reduce mortality and HF hospitalizations. [See page 2151. See figure.](#)

Interventional Cardiology

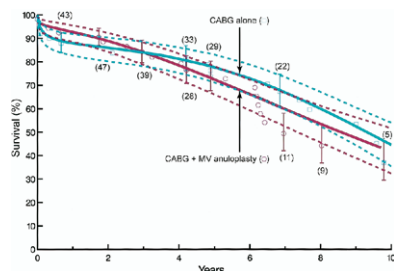
Elevated Fibrinogen Reduces Efficacy of Eptifibatide

Small molecule glycoprotein IIb/IIIa inhibitors have been shown to reduce periprocedural complications from percutaneous coronary intervention, but there appears to be individual differences in the response to these medications. Mahmud and colleagues measured platelet aggregation 10 min after either a single-bolus ($180 \mu\text{g/kg}$) or double-bolus of eptifibatide (EP). After the single bolus, 61% of patients did not achieve adequate platelet inhibition ($>95\%$ reduction in platelet aggregation). Using multivariable regression, an elevated fibrinogen level was the only independent predictor of an inadequate response to EP. This study suggests that measurements of fibrinogen levels prior to use of EP may be of value to ensure adequate platelet inhibition. [See page 2163. See figure.](#)

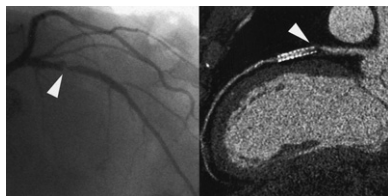
Vascular Risk Factors

Homocysteine Stimulates Release of CD40 From Platelets

While elevated homocysteine (Hcy) has been recognized as a cardiac risk factor, the biologic pathways remain disputed. Prontera and colleagues studied the link between homocysteine and the CD40/CD40 ligand system in a series of experiments. Patients with plasma Hcy $>15 \mu\text{mol/l}$ had soluble CD40L concentrations 4 times higher than those with Hcy $<15 \mu\text{mol/l}$. When exposed to Hcy, human umbilical vein endothelial cells produced CD40 messenger ribonucleic acid and platelets produced soluble CD40L. This study suggests a molecular link between Hcy and the CD40/CD40L dyad which may explain the increased risk of cardiovascular disease in subjects with high Hcy levels. [See page 2182.](#)



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Cardiac Surgery

No Survival Benefit for Mitral Annuloplasty at Time of CABG

Many surgeons recommend concomitant mitral valve (MV) annuloplasty for patients with moderate/severe (3+/4+) functional ischemic mitral regurgitation (MR) who undergo coronary artery bypass grafting (CABG). Mihaljevic and colleagues retrospectively analyzed almost 400 patients with ischemic MR who underwent CABG. Overall, there was little benefit to MV annuloplasty; despite its success at eliminating MR there were no differences in symptomatic benefit or survival at multiple time points. This study suggests that there is little long-term benefit to MV annuloplasty for ischemic MR. [See page 2191](#). [See figure](#).

Cardiac Imaging

64-Slice MSCT Can Reliably Exclude In-Stent Restenosis

Visualization of in-stent segments with computed tomography is particularly challenging because the metallic struts result in “blooming artifacts” which make them appear thicker and can obscure nearby structures. Cademartiri and colleagues hypothesized that the improved spatial resolution of 64-slice multislice computed tomography (MSCT) would improve diagnostic accuracy for in-stent restenosis (ISR). They report sensitivity and specificity of 95% and 93% for detecting ISR >50% with coronary angiography as the gold standard. Importantly, a negative predictive value of 99% suggests that MSCT may be a reliable noninvasive method for excluding ISR. [See page 2204](#).